BUKIN, Yu.V. (Leningrad, K-44, pr.K.Marksa, 63, kv.5)

"Biomechanics of physical exercises (general principles)" by D.D. Donskoi. Reviewed by Yu.V. Bukin. Arkh. anat. gist. i embr. 41 no.8:119-121 Ag '61. (MIRA 15:6)
(EXERCISE) (DONSKOI, D.D.)

17.1160
17.2151

38132
S/020/62/144/003/030/030
B144/B112

AUTHORS: Dokukin, A. V., Konstantinova, Z. S., Chechulin, Yu. S., and Bukin, Yu. V.

TITLE: Effect of vitamin B_{15} (pangamic acid) on the resistance of the organism and its cardiovascular system to hypoxia

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 3, 1962, 675 - 677

TEXT: Calcium and sodium salts of the natural homolog of pangamic acid (gluconodimethyl aminoacetate) were used to study the effect of B_{15} on the resistance of: (1) the organism of mice and rats to general asphyxia; (2) the myocard of cats and dogs to local hypoxia. (1) 150 - 500 mg B_{15}/kg was subcutaneously administered to 121 out of 245 mice 1 - 5 days before the experiment. The animals were then put into a hermetically sealed chamber and observed until they perished. Their average period of survival exceeded that of the control animals ($p = 0.06$). 13 rats were treated 50 : 50 with a subarachnoid dose of 10 mg B_{15}/kg in 0.05 ml 0.9% NaCl

Card 1/2

Effect of vitamin B_{15}.....

(pH = 7.2) and 13 rats with 0.05 ml physiological solution only. Figs. 14 and 15 show the results obtained for both groups. (2) 10 out of 26 "devagated" cats whose left coronary artery was ligated at the branching point of the ramus descendens were administered 75 mg B_{15}/kg s. c.

The blood pressure in the carotid artery and the onset of arrhythmia and fibrillation are illustrated in Fig. 13 . 200 mg B_{15} dissolved in 15ml physiological solution was administered to dogs through a catheter into the ramus descendens of the left coronary artery. The electrocardiogram revealed that B_{15} brought about a temporary incomplete restoration (elimination of ventricular extrasystoles). The experiments all prove the positive effect of B_{15}. There are 2 figures.

PRESENTED: December 21, 1961, by A. N. Bakulev, Academician

SUBMITTED: December 7, 1961

Fig.1. Survival of animals treated with B_{15} (thick line) and of control animals (thin line).

Card 2/2

BUKIN, Yu.V. (Leningrad)

N.I.Pirogov on the plan of university medical teaching. Sov. zdrav. 21 no.1:42-48 '62. (MIRA 15:2)

1. Iz kafedry anatomii (zaveduyushchiy - prof. A.A.Smirnov) Gosudarstvennogo ordena Lenina i ordena Krasnogo Znameni instituta fizicheskoy kul'tury imeni P.F.Lesgafta.
(PIGOGOV, NIKOLAI IVANOVICH, 1810-1881)

BUKIN, Yu.V. (Leningrad)

Increased requirements for historical-morphological research. Sov. zdrav. 21 no.3:68-72 '62. (MIRA 15:3)

1. Iz kafedry anatomii (zav. - prof. A.A. Smirnov) Gosudarstvennogo ordena Lenina i ordena Krasnogo Znameni instituta fizicheskoy kul'tury imeni P.F. Lesgafta.
(MORPHOLOGY)

BUKIN, Yu.V. (Leningrad)

N.I.Pirogov on the organization of regular congresses of naturalists and physicians in Russia. Sov.zdrav. 21 no.7:51-54 '62.
(MIRA 15:8)

1. Iz kafedry anatomii (zav. - prof. A.A.Smirnov) Gosudarstvennogo ordena Lenina i ordena Trudovogo Krasnogo Znameni instituta fizicheskoy kul'tury imeni P.F.Lesgafta.
(PIROGOV, NIKOLAI IVANOVICH, 1810-1881)

BUKIN, Yu.V.

N.I.Pirogov on callisthenics. Vop. kur., fizioter. i lech. fiz. kul't. 27 no.1:62-63 '62. (MIRA 15:5)

1. Iz kafedry anatomii (zav. - prof. A.A. Smirnov) ordena Lenina i ordena Trudovogo Krasnogo Znameni Instituta fizicheskoy kul'tury imeni P.F.Lesgafta.
(CALLISTHENICS) (PIROGOV, NIKOLAI IVANOVICH, 1810-1881)

BUKIN, Yu.V. (Leningrad, K-44, pr.K.Marksa, 63, kv.5)

"Collected works on morphology and surgery." Reviewed by IU.V. Bukin. Arkh. anat., gist. i embr. 42 no.5:123-127 My '62. (MIRA 15:6)

(ANATOMY, SURGICAL AND TOPOGRAPHICAL)

BUKIN, Yu.V. (Leningrad, K-64, prospekt Karla Marksa, 62, kv.5)

Activity of Petr Frantsevitch Lesgaft,1837-1909; at the Petersburg University; on the 125th anniversary of his birth. Arkhiv.anat., gist. i embr. 43 no. 9:114-117 S '62. (MIRA 17:9)

1. Kafedra anatomii (zav. - prof. A.A.Smirnov) Gosudarstvennogo ordena Lenina i ordena Krasnogo Znameni instituta fizicheskoy kul'tury imeni P.F.Lesgafta.

[redacted]

LUKIN, Yu.V. (Leningrad)

Persecution of P.F. Lesgaft by the czarist government. Sovet. zdravookhr. 12 no.1:73-80 '63 (MIRA 17:2)

1. Iz kafedry anatomii (zav. - prof. A.A. Smirnov) Gosudarstvennogo ordena Lenina i ordena Krasnogo Znameni instituta fizicheskoy kul'tury imeni P.F.Lesgafta.

BUKIN, Yuriy Vasil'yevich; SOROKO, Ya.I., red.; ATROSHCHENKO, L.Ye., tekhn. red.

[Energetics of living organisms] Energetika zhivogo. Moskva, Izd-vo "Znanie," 1963. 31 p. (Novoe v zhizni, nauke, tekhnike. VIII Seriia: Biologiia i meditsina, no.12)
(MIRA 16:7)

(VITAL FORCE)

ANDREYEV, S.V.; CHECHULIN, Yu.S.; KOBKOVA, I.D.; BUKIN, Yu.V.

Reactivity and metabolism of cardiac vessels during myocardial infarction. Cor vasa 5 no.1:18-29 '63.

1. The Institute of Cardiovascular Surgery, Academy of Medical Sciences, Moscow.

(MYOCARDIAL INFARCT) (CORONARY VESSELS) (MYOCARDIUM) (PHYSIOLOGY) (GLYCERYL TRINITRATE) (AMINOPHYLLINE) (RIBONUCLEASE) (ASPARTATE AMINOTRANSFERASE) (PROTEIN METABOLISM)

BUKIN, Yu.V.

Stimulation of the activity of glutamic-oxalacetic aminopherase in the zone of an experimental myocardial infarct. Dokl. AN SSSR 148 no.2:452-455 Ja '63. (MIRA 16:2)

1. Institut serdechno-sosudistory khirurgii AMN SSSR. Predstavleno akademikom A.I. Oparinym.
(HEART--INFARCTION) (GLUTAMIC OXALACETIC TRANSAMINASE)

BUKIN, Yu.V. (Leningrad, K-44, pr.K. Marksa, 65, kv.5)

"Anatomical technique; manual for making anatomical and biological preparations" by B.M. IAroslavtsev. Reviewed by IU. V. Bukin. Arkh. anat., gist. i embr. 44 no.2:108-111 F '63. (MIRA 17:2)

BUKIN, Yu.V.

Biosynthesis of pyridoxal phosphate and some physiological sequelae of its disorder. Usp. biol. khim. 6:215-239 '64.
(MIRA 18:3)

1. Institut serdechno-sosudistoy khirurgii AMN, Moskva.

BUKIN, Yu.V.; SVIRIDOV, N.K.

Reviews and bibliography. Arkh. anat., gist. i embr. 49 no.8: 111-114 Ag '65. (MIRA 18:9)

BOYTSOV, V.V.; BUKIN-BATYREV, I.K.

Development of high-speed stamping with special machines. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch. i tekh. inform. no.3:86-90 '63. (MIRA 16:4)

(Forging)

USSR/Geophysics - River detritus concentration

FD-2770

Card 1/2 Pub 45 - 4/13

Author : Arkhangel'skiy, M. M.; Bukina, A. A.

Title : Physical principles governing the optical method for measuring the concentration of river detritus

Periodical : Izv. AN SSSR, Ser. geofiz., Sep-Oct 1955, 435-444

Abstract : The authors consider the possibilities of optically recording the content of suspended alluvial detritus in a turbulent stream. They present theoretical and experimental data for founding the method and gives the results of its trial under laboratory conditions. They conclude that the tests in a colorimeter and with a laboratory pan have indicated the applicability of the method for measuring and recording the content of alluvial detritus under laboratory conditions. They note that the method is already in use in the laboratory of the Chair of the Physics of the Hydrosphere in the physical faculty of Moscow State University as a means for investigating the regime of detritus, and that a device for investigations under field conditions is under construction. Ten references: e.g. M. M. Arkhangel'skiy, "certain experimental data on the attenuation of light in a dispersive medium with

FD-2770

Card 2/2

Abstract : 1954; K. S. Shifrin, Rasseyaniye sveta v mutnoy srede [Scattering of light in turbid medium], State Technical Press, Moscow-Leningrad, 1951.

Institution : Moscow State University

Submitted : January 10, 1955

BUKINA, A. I.

PONOMAREV, A.N.; BUKINA, A.I.; SUKACHEV, V.N., akademik.

Daily rhythm of flowering and pollination of grasses. Dokl.AN SSSR 91 no.5: 1217-1220 Ag '53. (MLRA 6:8)

1. Akademiya nauk SSSR (for Sukachev). 2. Molotovskiy gosudarstvennyy universitet im. A.M.Gor'kogo (for Ponomarev and Bukina).
(Grasses) (Fertilization of plants)

YAKHONTOVA, L.K.; OSTROVSKAYA, I.V.; BUKINA, A.N.

Solubility of smaltite in sulfuric acid. Trudy Min. muz. no.8:122-127 '57. (MIRA 11:3)

(Smaltite)

YAKHONTOVA, L.K.; BUKINA, A.N.; RAUDONIS, P.A.

Solubility of some cobalt and nickel arsenides in a sulfuric acid medium. Zap. Vses. min. ob-va 87 no.1:23-30 '58. (MIRA 11:6)

1. Moskovskiy universitet, Kafedra mineralogii.
(Arsenides) (Sulfuric acid)

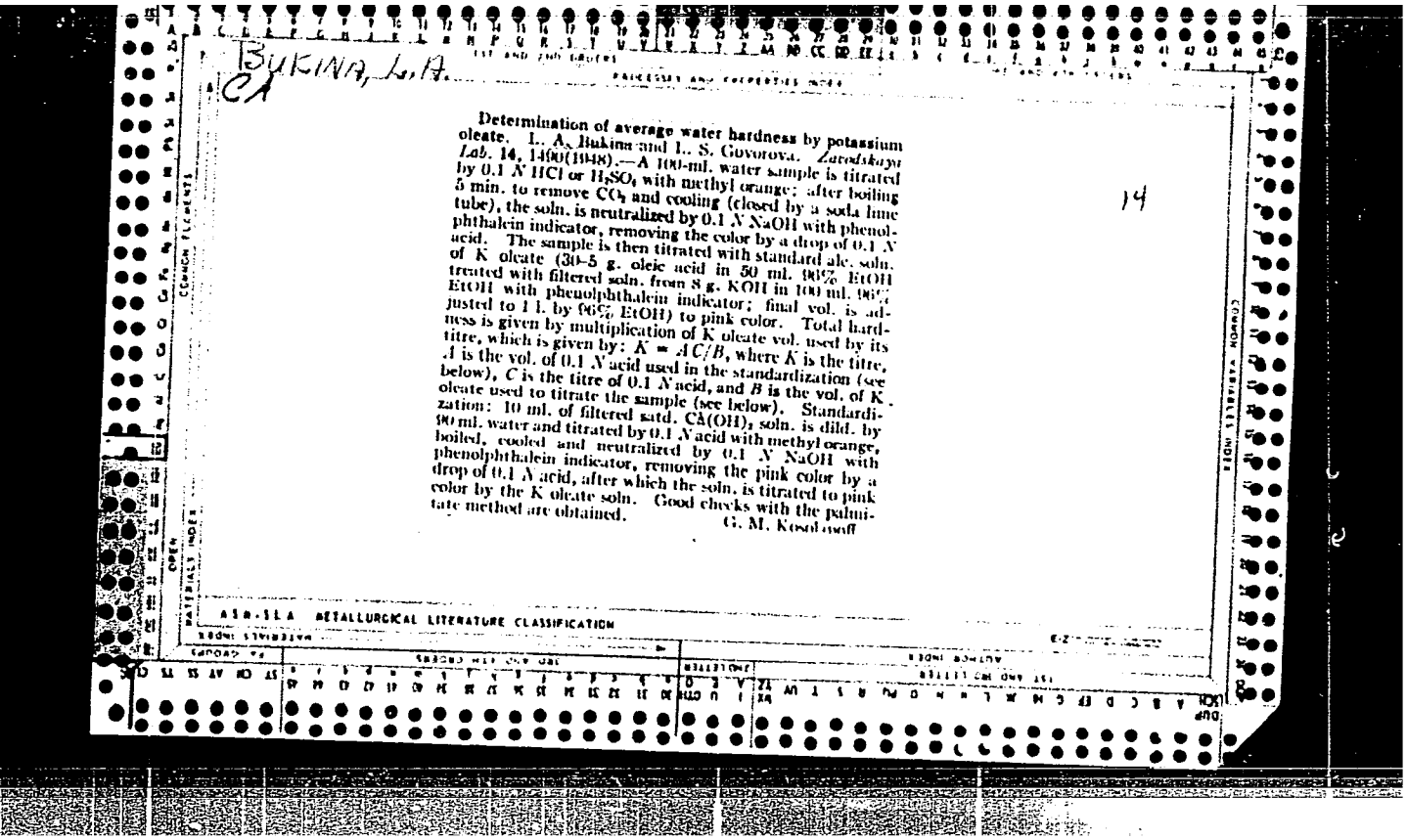
SHPAYER, A.M.; BUKINA, A.S.; BERNATSKAYA, V.V. (Moskva)

New interfacing materials for clothing. Shvein.prom. no.4:29-31 Jl-Ag '61. (MIRA 14:12)
(Nonwoven fabrics)

BUKINA, G.V.

Incidence of angina in Kazan and measures for its reduction. Nauch. trudy Kaz. gos. med. inst. 14:11-12 '64. (MIRA 18:9)

1. Kafedra bolezney ukha, gorla i nosa (zav. - prof. N.N. Lozanov) Kazanskogo meditsinskogo instituta.



BYKINA, L.A.
CA

14

Determination of average water hardness by potassium oleate. L. A. Bukina and L. S. Govorova. *Zavodskaya Lab.* **14**, 1490(1948).—A 100-ml. water sample is titrated by 0.1 *N* HCl or H_2SO_4 with methyl orange; after boiling 5 min. to remove CO_2 and cooling (closed by a soda lime tube), the soln. is neutralized by 0.1 *N* NaOH with phenolphthalein indicator, removing the color by a drop of 0.1 *N* acid. The sample is then titrated with standard alc. soln. of K oleate (30–5 g. oleic acid in 50 ml. 96% EtOH treated with filtered soln. from 8 g. KOH in 100 ml. 96% EtOH with phenolphthalein indicator; final vol. is adjusted to 1 l. by 96% EtOH) to pink color. Total hardness is given by multiplication of K oleate vol. used by its titre, which is given by: $K = AC/B$, where K is the titre, A is the vol. of 0.1 *N* acid used in the standardization (see below), C is the titre of 0.1 *N* acid, and B is the vol. of K oleate used to titrate the sample (see below). Standardization: 10 ml. of filtered satd. $Ca(OH)_2$ soln. is dild. by 90 ml. water and titrated by 0.1 *N* acid with methyl orange, boiled, cooled and neutralized by 0.1 *N* NaOH with phenolphthalein indicator, removing the pink color by a drop of 0.1 *N* acid, after which the soln. is titrated to pink color by the K oleate soln. Good checks with the palmitate method are obtained.

G. M. Kosolapoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

BUKINA, L. A.

AUTHOR: Bukina, L. A. 49-9-13/13

TITLE: On the light regime of the rivers Rion, Kuban' and Don. (O svetovom rezhime rek Rion, Kuban' i Don)

PERIODICAL: Izvestiya Akademii Nauk, SSSR, Seriya Geofizicheskaya, 1957, No.9, pp.1194-1200 (USSR)

ABSTRACT: The author considered it of interest to investigate the optical properties of water directly under natural conditions in rivers since the spectrum of the particles which weaken light vary to a greater extent than under laboratory conditions. Therefore, the aim of the work described in this paper was to investigate by means of a photo-electric method the weakening of daylight at various depths of rivers with differing quantities and compositions of suspended particles. A description is given of the photometer used. The results are plotted in Fig.3, which gives the relation between the optical density and the depth of submersion of the photometer for depths up to 280 cm. The graph, Fig.4, gives the results of analysis of the mechanical composition of the floating particles in a water sample from the River Rion, whilst Fig.5 gives the mechanical composition of the floating particles of the rivers Rion, Kuban and Don. The obtained experimental

Card 1/2

On the light regime of the rivers Rion, Kuban' and Don. 49-9-13/13

values are lower in all the three cases under consideration than those determined by theoretical calculations. There are 5 figures, 5 tables and 10 references, all of which are Slavic.

SUBMITTED: December 12, 1956.

ASSOCIATION: Moscow State University imeni M. V. Lomonosov. (Moskovskiy Gosudarstvennyy Universitet im. M.V.Lomonosova)

AVAILABLE: Library of Congress

Card 2/2

BUKINA, L.A.

Laboratory method of studying the speed of crystal growth in frazil ice. Izv.AN SSSR.Ser.geofiz. no.6:947-950 Je '61. (MIRA 14:5)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Ice crystals)

BUKINA, L.A.

Growth rate of ice crystal formation in water. Izv.AN SSSR. Ser.geofiz. no.12:1852-1857 '62. (MIRA 16:2)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Crystals—Growth)
(Ice)

BUKINA, L.A.

Effect of temperature on the relationship of thickness to diameter in disc-shaped crystals of anchor ice. Izv. AN SSSR. Ser.geofiz. no.1:188-190 Ja '63. (MIRA 16:2)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova. (Ice)

BUKINA, L.A.

Coefficient of heat transfer of disc-shaped ice crystals in water. Izv. AN SSSR. Ser. geofiz. no.7:1131-1139 Jl '63.

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova. Predstavleno chlenom redaktsionnoy kollegii Izvestiy AN SSSR, Seriya goefizicheskaya, S.V. Dobroklonskim.
(Ice—Thermal properties)

RODIONOVA, L.V.; KLIMOVA, A.P.; INGBERMAN, A.B. [deceased]; BELYANINOVA, Z.P.; KITSENKO, G.P., spetsred.; BUKINA, L.N., vedushchiy red.

[Shopless organization of the management at the Marat Confectionery Plant in Moscow] Bestsekhovaia struktura upravleniia na moskovskoi konditerskoi fabrike im. Marata. Moskva, Gos.nauchno-issl.in-t nauchn. i tekhn. informatsii, 1959. 31 p. (MIRA 13:6)
(Moscow--Confectionery)

KARTASHOV, A.K.; PETRENKO, I.M., spetsred.; BUKINA, L.N., vedushchiy red.

[New operating methods in juice extracting, and refining of diffusion juice in beet-sugar manufacture] Novye metody raboty v sokodobyvanii i ochistke diffuzionnogo soka v sveklosakharnom proizvodstve. Moskva, GOSINTI, 1959. 37 p. (MIRA 13:6)
(Sugar manufacture)

KLEYMAN, B.M., inzh.; IVANOV, P.Ya., inzh.; SILIN, P.M., prof.; LEPESHKIN, I.P., spetsred.; BUKINA, L.N., vedushchiy red.

[Operating experience of sugar factories of the R.S.F.S.R. under intensified conditions in the 1958-1959 production season; methods recommended for the processing of sugar beets] Opyt raboty sakharnykh zavodov RSFSR na forsirovannom rezhime v sezon 1958/59 g.; rekomendatsii po uskorennoi pererabotke sakharnoi svekly. Moskva, Gos.nauchno-issl.in-t nauchn. i tekhn.informatsii, 1960. 65 p. (MIRA 13:6)

1. Moscow. Vsesoyuznyy institut nauchnoy i tekhnicheskoy informatsii.

(Sugar industry)

BUKINA, M. N.

1. RYZHKOV, S. F. and BUKINA, M. N.

2. USSR (600)

4. Quartzite-Salair Range

7. Quartizites of the southwestern part of Salair Range along the route of the Barnaul-Stalinsk Railroad. [Abstract.] Izv.Glav.upr.geol.fon. no. 2, 1947.

9. Monthly List of Russian Accessions, Library of Congress, March 1953, Unclassified.

BUKINA, N. A.

"Formation and Variability of Types and Varieties of Wheat (In Various Phases of Development and Stages of Organogenesis)." Cand Biol Sci, Moscow State U, Moscow, 1953 (RZhBiol, No 1, Sep 54)

SO: Sum 432, 29 Mar 55

SYCHEV, M.M.; KORNEYEV, V.I.; FEDOROV, N.F.; TOROPOV, N.A., doktor tekhn. nauk prof., red.; BUKINA, N.N., red.

[Alite and belite in portland cement clinker and the processes of alloyage] Alit i belit v portlandtsementnom klinkere i protsessy legirovaniia. Pod red. N.A.Toropova. Leningrad, Stroiizdat, 1965. 152 p. (MIRA 18:12)

1. Chlen-korrespondent AN SSSR (for Toropov).

S/032/61/027/007/005/012
B110/B203

AUTHORS: Zhukayeva, V. A., Nikonova, A. S., and Bukina, N. V.

TITLE: E perience gained in the determination of metal impurities in lubricating oils

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 7, 1961, 855

TEXT: The method described for determining metal impurities in lubricating oils is the modified and completed testing process developed by Ye. V. Il'ina and K. I. Taganov (Informatsionno-tekhnicheskiy listok LDNTP, No 97, 1956). After 45 min shaking, 4 g of oil is filled in a porcelain pot, mixed with ~50 mg of graphite powder prepared from spectroscopically pure carbon electrodes annealed for 50 sec, 1 cm^3 of benzine with nickel oleate, and then, dropwise, with 1 cm^3 of benzine with barium oleate. Ni serves as standard, Ba as stabilizer of the arc discharge. The mixture is burnt in the pot, and the ash annealed at 800°C. After cooling in the exsiccator, graphite powder is added and filled up to 200 mg (enrichment coefficient = 20). After 10-min mixing

Card 1/3

in the agate mortar, the mixture is pressed into the crater of the lower graphite electrode. The analysis is conducted by an ИСП-28 (ISP-28) spectrograph with three-lens condenser and three-stage reducer, ДГ-1 (DG-1) generator, and 10 amperes. The spectroscopically pure graphite rod electrodes (6 mm diameter) are burnt with 10 a for 10 sec. The 5 mm long end of the upper electrode is 3 mm in diameter, the lower electrode has a 3 mm deep crater (diameter 3 mm). A special device is used for grinding the electrodes. The analysis is conducted by the method of three standards. The bands lie as follows: Cu = 3082.16; Mn = 2949.20; Sn = 3175.02; Al = 3082.16; Fe = 2966.90; Si=2881.58; Pb = 2833.07; and Cr = 3015.19 Å. Reference line: Ni = 3080.76 Å. The standards are prepared from three mixtures: (I) $SnCl_2$ = 100; Al_2O_3 = 118; CuO = 78.2; Fe_2O_3 = 892; SiO_2 = 134; MnO_2 = 100; PbO = 67.5; Cr_2O_3 = 29.2 mg, and graphite powder = 481 mg. (II) 100 mg of (I) and 900 mg of graphite powder. (III) 200 mg of (II) and 800 mg of graphite powder. 50, 150, and 500 mg of (III), 288 mg of (II), and 96 and 288 mg of (I) are filled into six pots. All pots are mixed with 6 g of pure oil, 15 cm^3 of benzine with nickel oleate, and 15 cm^3 with barium oleate, and heated in a muffle furnace at 800°C. The

substance is filled up with graphite powder to 3000 mg, and mixed in an agate mortar for 30 min. Thus, six standards with Sn, Al, Cu, Mn, Pb, and Si of from 0.001 to 0.3%, Fe from 0.01 to 3%, and Cr from 0.00053 to 0.1% were obtained. This method is, therefore, suited for industrial conditions; because of its time-consuming determinations it is, however, not one of the quick analytical methods. [Abstracter's note: Essentially complete translation.]

ASSOCIATION: Kolomenskiy teplovozostroitel'nyy zavod im. V. V. Kuybysheva (Kolomna Locomotive Works imeni V. V. Kuybyshev)

Card 3/3

BUKINA, S.P.

Investigating the blunting and wearing of circular saw teeth in sawing particle boards. Nauch. trudy LTA no.97:59-64 '62.
(MIRA 17:2)

KRYZHANOVSKAYA, Zinaida Pavlovna; BUKINA, T.B., red.; SHILLING, V.A., red. izd-va; BELOGUROVA, I.A., tekhn. red.

[Dissemination of technical literature in libraries of industrial enterprises] Opyt raboty po propagande tekhnicheskoi literatury bibliotekoi promyshlennogo predpriiatiia. Leningrad, 1961. 22 p. (MIRA 14:7)

(Factory libraries)

GLUSHCHENKO, I.Ye.; KRUZHKOVA, I.V.; SEMENOV, O.G.; BUKINA, V.A.

Objectives of selection work in the non-Chernozem zone. Izv. AN SSSR. Ser. biol. no.5:769-778 S-O '64. (MIRA 17:9)

1. Institute of Genetics of the U.S.S.R. Academy of Sciences, Moscow.

BUKINA, V. K.

BUKINA, V. K.

"The Relationship of Surface Friction Forces to the Phys icochemical Properties of Cotton Fibers." Cand Chem Sci, Inst of Chemistry, Acad Sci Uzbek SSR, 29 Dec 54. (PV, 17 Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

BUKINA, V.K.; SHUL'TS, A.L.; KONONENKO, N.I.

Microanalytical determination of sulfur in galvanic deposits of nickel. Dokl. AN Uz. SSR no.6:27-29 '58. (MIRA 11:9)

1.Institut khimii AN UzSSR. Predstavleno akademikom AN UzSSR M.N. Nabiyevym.
(Nickel plating) (Sulfur) (Microchemistry)

BUKINA, V.K.; MOYZHES, M.Ya.

Problem of the determination of halides by means of fusion with metallic potassium. Dokl. AN Uz.SSR no.2:27-29 '59. (MIRA 12:4)

1. Institut khimii AN UzSSR. Predstavleno chlenom-korrespondentom AN UzSSR Kh.U. Usmanovym.

(Hallides)

ISKHAKOV, Sh.; USMANOV, Kh.U., BUKINA, V.K.

Treating cotton fibers with organic solvents to increase the friction force between separate fibers. Izv.vys.ucheb.zav.; tekh.tekst. prom. no.3:31-33 '60. (MIRA 13:7)

1. Tashkentskiy tekstil'nyy institut i Institut khimii polimerov AN UzSSR.
(Cotton yarn) (Solvents)

BUKINA, V.K.; PROKOP'YEVA, M.F.; YATRUDAKIS, S.E.

Quantitative determination of nitrosyl chloride, chlorine, and hydrogen chloride in gas mixtures. Uzb. khim. zhur. no.6:45-49 '60. (MIRA 14:1)

1. Institut khimii AN UzSSR.
(Nitrosyl chloride) (Chlorine—Analysis)
(Hydrochloric acid)

PROKOP'YEVA, M.F.; BUKINA, V.K.

Separate quantitative determination of gaseous chlorine, nitrosyl chloride, and hydrogen chloride by gas-liquid chromatography. Uzb. khim. zhur. 7 no.6:30-35 '63. (MIRA 17:2)

1. Institut khimii AN UzSSR.

PROKOP'YEVA, M.F.; BUKINA, V.K.

Determination of the solubility of chlorine and nitrosyl chloride in some hydrocarbons by gas-liquid chromatography. Uzb.khim.zhur. 8 no.1:40-43 '64. (MIRA 17:4)

1. Institut khimii AN UzSSR.

[redacted]

BUKINA, Ye.N., kand.sel'skokhoz.nauk

Germ transplatation method used in grafting cereal plants. Agrobiologiia no. 1:126-128 Ja-F '61. (MIRA 14:2)

1. Tyumenskaya gosudarstvennaya sel'skokhozyaystvennaya opytnaya stantsiya.
(Grain) (Grafting)

BUKINA, Ye.Ye.

Some laws of the development of visual concepts. Vop. psikhol. 11 no.1:113-123 Ja-F '65. (MIRA 18:4)

1. Pedagogicheskiy institut, Karachayevo-Cherkessk.

BUKINICH, D.D.

Increasing the output of cupola furnaces. Biul. TSNIICHM no. 10:49 '58. (MIRA 11:7)

1. Zavod "Svobodnyy Sokol." (Cupola furnaces)

BUKINSKAYA, A. G.

USSR / Virology. Human and Animal Viruses E-2

Abs. Jour: Ref Zhur - Biol., No 6, 1958, 23995

Author : Gorbunova, A. S., Gerngross, O. G., Gnorizova, V. M., Bukinskaya, A. G.

Inst : Not given

Title : Grippe Type D Virus Strains Isolated in Vladivostok and Their Role in the Outbreak of 1956. (Preliminary Communication).

Orig Pub: Vopr. virusologii, 1957, No 2, 77-86

Abstract: At the time of the influenza outbreak in Vladivostok in 1956, five virus strains which agglutinated chick erythrocytes and were apathogenic to mice on initial passage, were isolated from nose and throat washings of sick persons. Hemagglutination brought about by the isolated strains was not inhibited by standard anti-influenza sera A, A', B and C, but

Card 1/2

USSR / Virology. Human and Animal Viruses E-2

Abs Jour: Ref Zhur - Biol., No 6, 1958, 23995

Abstract: these strains proved to be related in antigenic properties to Japanese strains (Senday) of grippe type D. RTGA [blood serum reaction inhibition] results were confirmed in neutralization tests on mice and chick embryos. Far-Eastern and Japanese strains of virus D multiply in lung fibroblasts, producing their specific degeneration. Neutralization reactions in tissue cultures also confirmed that the Far-Eastern strains belong to type D influenza virus. Testing of 44 sera obtained from Vladivostok residents eight months after the outbreak showed the presence of type D influenza antibodies. Similar examination of the sera of Moscow people on the presence of antibodies gave negative results. Antibodies of virus D were definitely found only in laboratory workers in contact with this virus.

Card 2/2

KUKEKOV, G.A., kand. tekhn. nauk (Leningrad); SHISHMAN, D.V., kand. tekhn. nauk (Leningrad); BUKIR', P.P., inzh. (Leningrad); ROZET, V.Ye., inzh. (Leningrad)

Spark gaps with electromagnetic narrow-slot arc quenchers for a.c. valve dischargers. Elektrichestvo no.12:58-60 D '64. (MIRA 18:12)

BUKIREV, A. I.

"The Study of Hybrids of Cyprinus Carpio," Zool. zhur., 27, No.3, 1948

Chair of Vertebrate Zoology and Ichthyology, Molotov State U.

BUKIREV, A. I.

May 53

USSR/Meteorology - Hail

"Unusual Hail," A. I. Bukirev, Molotov State U

Priroda, No 5, p 115

Describes hailstorm which occurred on 9 Aug 50 at 2020 hrs over the Kishertskiy Rayon in Molotov Oblast and lasted about 15 min, covering an area of 20 sq km.

263T96

Bukirev, A.I.

BUKIREV, A.I; PUSHKIN, Z.M.

Deformities in fishes. Vop. ikht. no.9:147-151 '57. (MIRA 11:1)

1. Molotovskiy universitet.
(Kama River--Fishes) (Abnormalities (Animals))

BUKIREV, A.I.; USOL'TSEV, E.A.

History of the fish fauna of the Kama basin [with summary in English]. Zool. zhur. 37 no. 6:884-898 Je '58. (MIRA 11:7)

1.Permskiy gosudarstvennyy universitet.
(Kama River--Fishes)

BUKIREV, A.I.; KOSTAREV, G.F.

Age and growth of bream in Kama Reservoir. Vop. ikht. no.17:68-74 '61. (MIRA 14:5)

1. Permskiy gosudarstvennyy universitet.
(Kama Reservoir--Bream)

BUKIS, G.

LATVIA/Human and Animal Physiology - The Skin. V-12

Abs Jour : Ref Zhur - Biol., No 2, 1958, 9143

Author : G. Bukis

Inst : The Latvian Agricultural Academy

Title : Changes in the Reactivity of the Skin of Cattle as a Result of Local Stimulation by Heat.

Orig Pub : Sb. stud. nauchne-issled. rabot. Latv. s-kh. Akad., 1957, vyp 1, 67-72

Abstract : No abstract.

Card 1/1

BUKIREV, A.I.

Brook trout in the middle Kama Basin. Nauch. dokl. vys. shkoly; biol. nauki no.1:16-20 '60. (MIRA 13:2)

1.Rekomendovana kafedroy zoologii pozvonochnykh i ikhtiologii Permskogo gosudarstvennogo universiteta im. A.M. Gor'kogo.
(Kama Valley--Trout)

BUKIY, I.V.

Results of using some methods for the study of the gas potential of coal seams in the Kuznetsk Basin. Trudy TSKB no.5:74-81 '62.
(MIRA 18:7)

BUKIYA, A., red.; GIGAURI, S., tekhn. red.

[The Black Sea shore of the Caucasus] Chernomorskoe poberezh'e Kavkaza; al'bom vidov. Tbilisi, Izd. Gruzinskogo otd-nie Muzfonda SSSR, 1960. (unpaged, chiefly illus.) (MIRA 14:10)
(Black Sea region—Views)

L 8575-66 EWT(d)/EWP(1) IJP(c) GG/BB

ACC NR: AR5018117 SOURCE CODE: UR/0271/65/000/007/B009/B010

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika. Svodnyy tom, Abs. 7B78

AUTHOR: Kantariya, G. V.; Bukiya, G. B. 44 41 B+1

TITLE: Use of parallel microprograming in a computer having simultaneous access to numbers and commands

CITED SOURCE: Tr. Tbilissk. n.-i. in-ta priborostr. i sredstv avtomatiz., v. 4-5, 1964, 69-71

TOPIC TAGS: digital computer, digital computer programing 16C, 44

TRANSLATION: A method is considered of parallel microprograming in a digital computer with a fixed point and single-address command system. The command comprises three parts: operation address A_o, number address A, and tags $\gamma_1\ \gamma_2 \dots \gamma_m$. Thanks to the nonvolatile ferrite-core command storage with a punch-card information input (this storage has the access time less than one-half of the access time of the internal number storage), the command access and the instruction access coincide with one access of the number from the internal number storage. From the address (code) of A-operation, an instruction is selected which corresponds to a given command and -- as an n-digit binary code -- is sent to the elementary-operation register; each digit of the latter controls the performance of a group of elementary operations belonging with one command or a group of commands. Advantages of the parallel microprograming,

Card 1/2 UDC: 681.142.2

L 8575-66

ACC NR: AR5018117

such as higher speed, computer control unit ?, smaller amount of equipment, simplified synchronization scheme are stated. Figs. 2. [Translator's note: the Russian original is not clear as its language is semi-illiterate.]

SUB CODE: 09

jw

Card 2/2

L 01477-66 ENT(d)/EED-2/ENP(1) IJP(c) BB/GG

ACCESSION NR: AR5017752 UR/0372/65/000/006/G008/G008
681.142.1.01

AUTHOR: Bukiya, G. B. 44

TITLE: Minimizing multiregister circuits 16,44

SOURCE: Ref. zh. Kibernetika. Svodnyy tom, Abs. 6G50

TOPIC TAGS: computer storage, computer theory, command system

ABSTRACT: The author examines the problem of finding the minimum number of registers necessary in a computer when there are M commands, each of which operates with a certain number of registers n. A command is carried out by the set of elementary operations β_e, $e = \overline{1, L}$ in time interval $(t, t+1)$ and is written in the form of a matrix $\alpha = \{a^{\alpha}_{ie}\beta_e^j\}$, where j is the register number, a^{α}_{te} is a coefficient which takes the value of 0 or 1 depending on the presence of β_e in command α. Time t varies from 1 to T^{α} (T^{α} is the total time for fulfillment of a command). The duty matrix for the registers with respect to command α is introduced:

Card 1/3

L 01479-66

ACCESSION NR: AR5017752

$$B^{\alpha}=\{B^{\alpha}_{ii}\},\ B^{\alpha}_{ij}=\sum_{Vl=1}^{L} a^{\alpha}_{le}\cdot\beta^{j}_{e}R_{l};\ R_{l}\text{ -- регистр};$$

$$\beta^{\alpha}_{e}R_{l}=\begin{cases}1 & j=l,\\ 0 & j\neq l.\end{cases}$$

If the equality

$$\sum_{Vl=1}^{r^{\alpha}-1} B_{il}\,\&\,B^{\alpha}_{il'}=0,$$

is fulfilled, then in command α, register i may take the functions of register i'; if the equality

$$\sum_{V\alpha=1}^{N}\sum_{Vl=1}^{r^{\alpha}-1} B^{\alpha}_{il}\,\&\,B^{\alpha}_{il'}=0,$$

is fulfilled, then register i' is superfluous. Several additional characteristics are introduced, and a search algorithm for the superfluous register is formulated. Yu. U.

ASSOCIATION: none

Card 2/3

L 01479-66

ACCESSION NR: AR5017752

SUBMITTED: 00 ENCL: 00 SUB CODE: DP

NO REF SOV: 000 OTHER: 000

Card 3/3

L 01480-66 EWT(d)/T/EED-2/EWP(1) IJP(c) BB/GG

ACCESSION NR: AR5017751 UR/0372/65/000/006/G007/G007
681.142.1.01

SOURCE: Ref. zh. Kibernetika. Svodnyy tom, Abs. 6G46

AUTHOR: Kantariya, G. V.; Bukiya, G. B.

TITLE: Optimization of digital computer design

CITED SOURCE: Tr. Tbilissk. n.-i. in-ta priborostr. i sredstv avtomatiz., 1964, 4-5, 201-204

TOPIC TAGS: computer design, digital computer system, command system

TRANSLATION: The authors examine the block diagram of a digital computer designed for high reliability and speed. A digital computer is studied which has a single-address command system and fixed-decimal number representation. The access rate for the permanent memory in this system should be no more than 1/2 the access rate of the working memory. It is assumed that the principles of microprogramming are used, that the functional purposes of the units are consolidated and that the summation unit is constructed from single-digit summing circuits of the combination type.

Card 1/2

L 01180-66

ACCESSION NR: AR5017751

These measures are effective for improving digital computer design. See also abstract 6G45. V. G.

SUB CODE: DP ENCL: 00

Card 2/2

L 1994-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EED-2/EWP(l) IJP(c) BB/GG

ACCESSION NR: AR5017750 UR/0372/65/000/006/G007/G007
681.142.1.01

SOURCE: Ref. zh. Kibernetika. Svodnyy tom, Abs. 6G45

AUTHOR: Bukiya, G. B.; Kantariya, G. V.

TITLE: Control of operations in an arithmetic unit of the combination type

CITED SOURCE: Tr. Tbilissk. n.-i. in-ta priborostr. i sredstv avtomatiz., 1964, 4-5, 208-210

TOPIC TAGS: automatic control system, computer component, logic circuit, arithmetic unit

TRANSLATION: Some minimum (in the sense of amount of equipment) logic circuits are examined for maximum efficiency on synchronous digital computers in controlling the operations of division and change of address for automatic control of the combination type. Yu. U.

SUB CODE: DP ENCL: 00

Card 1/1

USSR/Cultivated Plants - Medicinal. Essential Oils. Toxins. M-7

Abs Jour : Ref Zhur - Biol., No 20, 1958, 91880

Author : Bukiya, G.I.

Inst : All-Union Scientific Research Institute of Synthetic and Natural Aromatics.

Title : On the Problem of the Culture of Euginol Basil in Western Georgia.

Orig Pub : Tr. Vses. n.-i. in-t sintetich, i natural'nykh dushistykh v-v, 1957, vyp. 3, 55-66.

Abstract : The eugenol basil (Ocinum gratissimum L.) of the Labiatae family grows under natural conditions in its native South Africa in the form of perennial undergrowth. In the USSR it is cultivated as an annual culture by raising the planting material in covered ground. The eugenol basil yields oil rich in eugenol and is a substitute for oil of cloves.

Card 1/2

USSR/Cultivated Plants - Medicinal. Essential.Oils. Toxins. M-7

Abs Jour : Ref Zhur - Biol., No 20, 1958, 91880

The essential oil in basil is in the leaves, particularly on the under side, in special glands and in the raceme. There are only traces of oil in the stems. In 1954 basil in Georgia occupied an area of 925 hectares. Recommendations on sowing schedules, on root beds, etc. are given. -- L.N. Korolev.

Card 2/2

BUKIYA, L. I., (Veterinary Surgeon, Town of Zugdidi, Georgian SSR)

The testing of antimicrobic charactistics of terramycin on the causative agent of pasteurellosis in swine.

Veterinariya vol. 38, no. 10, October 1961, pp. 81-89.

Bukiya, S. G.

USSR/ Geology

Card 1/1 : Pub. 22 - 40/47

Authors : Bukiya, S. G.

Title : About the Danish stratum in Mergeleya

Periodical : Dok. AN SSSR 99/1, 153-155, Nov 1, 1954

Abstract : Geological data on the discovery of a Danish stratum in various regions of western Georgia USSR and particularly the stratum in Mergeleya Georg-USSR are presented. Four USSR references (1929-1937).

Institution : ...

Presented by: Academician N. M. Strakhov, August 14, 1954

Bukiya, S.G.

USSR/Geology

Card 1/1 Pub. 22 - 49/63

Authors : Bukiya, S. G.

Title : The lower lias in north-western Abkhazia

Periodical : Dok. AN SSSR 99/6, 1073-1075, Dec 21, 1954

Abstract : Geological-stratigraphic data are presented on Lias stone discovered in the north-western part of Abkhazia in the USSR. Four USSR references (1877-1947).

Institution : .....

Presented by: Academician N. M. Strakhov, October 12, 1954

BUKIYA S.G.

USSR/ Geology - Lower-Jurassic deposits

Card 1/1 Pub. 22 - 36/50

Authors : Bukiya, S. G.

Title : Lower Jurassic deposits in the Okumi River basin in Abkhazia

Periodical : Dok. AN SSSR 100/1, 139-140, Jan. 1, 1955

Abstract : Geological and stratigraphic data are given regarding the discovery of Lower-Jurassic period deposits in the Okumi River basin of Abkhazia. Three Russian and USSR references (1903-1947).

Institution : .....

Presented by: Academician N. M. Strakhov, November 3, 1954

BUKIYA, S.G.

USSR/ Geology

Card 1/1 Pub. 22 - 41/60

Authors : Bukiya, S. G.

Title : The age of the granitoid of the Kamenistaya mountain massive (Abkhaziya)

Periodical : Dok. AN SSSR 100/4, 765-767, Feb 1, 1955

Abstract : Geological data are presented regarding the age and development of the granitoid massive of the Kamenistaya mountain in Abkhazia. Three USSR references (1938 and 1940).

Institution : .....

Presented by: Academician N. M Strakhov, November 4, 1954

BUKIYA, S.G.

Paleogeography ofeastern Georgia in the Sarmatian. Sov.geol. 2 no.7:10-?0 Jl '59. (MIRA 13:1)

1. Geologicheskoye upravleniye pri Sovete Ministrov GruzSSR. (Georgia--Paleogeography)

3(0)

AUTHOR: Bukiya, S. G. SOV/20-124-3-43/67

TITLE: New Data on the Age of the Desskaya Suite (Novyye dannyye o vozraste desskoy svity)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 3, pp 646-648 (USSR)

ABSTRACT: In the course of an extensive geologic mapping project of Abkhaziya and Svanetiya, the author collected data which allowed him to determine the age of the Desskaya Suite as Triassic. Up to this time the age of this suite was debatable (Carboniferous or even older, Refs 1-5). A review of the literature is given. The author thoroughly studied a cross section of the Desskaya Suite in the southern limb of the Khumpreri anticline along the road on the Inguri River. In this area the suite is some 1,600 m thick. The author subdivided the suite on the basis of lithologic characteristics into 3 subsuites: lower subsuite, up to 475 m thick (6 units, 75, 30, 35, 110, 95, and 130 m thick), middle subsuite (3 units, 130, 91, and 369 m thick), and the upper subsuite (7 units, 90, 40, 75, 100, 85, 40, and 110 m thick). The suite consists of marble, marble-like limestone,

Card 1/3

sandstone - often orthoquartzite -, and shale. The 2nd unit (from the bottom) of the highest subsuite is intruded by a bright gray quartz-syenite-diorite. The Desskaya Suite plays a significant role in the geologic structure of the upper Svanetiya and Abkhaziya. N. N. Yakovlev identified the fauna. It belongs, according to G. P. Agalin (Ref 1), to the Lower Carboniferous. P. D. Gamkrelidze, however, determined the Desskaya Suite as Triassic and Upper Paleozoic. On the basis of Foraminifera and Amphipors (collected by V. P. Petrov) from the Abkhaziya mountains, it was assumed (Ref 3) that the lower part of this suite contained rocks of Middle and Upper Devonian age while the upper part contains rocks of Carboniferous age. According to the identifications of V. S. Malyavkina, not only typical Triassic forms but pollen grains of Caytonia occur in the middle unit of the middle subsuite. Thus, the sediments of the aforementioned unit of the Desskaya Suite cannot be older than Upper Triassic. From this unit to the top of the suite, the Upper Triassic is clearly represented. It is transgressively covered by faunally characterized Lower Lias rocks and shows an angular unconformity with them.

New Data on the Age of the Desskaya Suite SOV/20-124-3-43/67

D. G. Dzhigauri has determined a rich macro-fauna in the middle subsuite on the northern slope of the Bakyld Range. His identifications confirm the Upper Triassic age of both upper subsuites. The age of the older rocks (lower subsuites) cannot be determined exactly. One can assume that the lowermost unit in the suite is not older than lowest Triassic. There is no ascertainable interruption or discordance in the entire suite. Petrographic studies indicate identical conditions of sedimentation during the deposition of the entire suite. There are 5 Soviet references.

ASSOCIATION: Geologicheskoye upravleniye pri Sovete Ministrov GruzSSR (Geological Administration of the Council of Ministers, Gruzinskaya SSR)

PRESENTED: September 19, 1958, by S. I. Mironov, Academician

SUBMITTED: May 12, 1958

Card 3/3

BUKIYA, S.G.; ABAMELIK, Ye.M.

Metallogenetic forecasting map of Abkhazia. Zakonom.razm.polezn. iskop. 7:351-352 '64. (MIRA 17:6)

1. Upravleniye geologii i okhrany nedr pri Sovete ministrov Gruzinskoy SSR.

[illegible]

The output of ruby luminescence. Acta physica Pol 2[illegible] no.3/4 [illegible] [illegible] '64.

1. Academy of Sciences of the U.S.S.R., Moscow.

USSR

Quenching of zinc sulfide phosphors activated by means of cobalt and nickel. V. V. Antonov-Romanovskii, E. E. Bukke, and L. A. Vlnokurov. *Zhur. Eksptl. i Teoret. Fiz.* 25, 745-8(1953).—The introduction of 10^{-4}–10^{-7} parts Co or Ni activators into ZnS phosphors leads to the appearance of new absorption bands in the red (700–800 mμ) and infra-red. The intensities of these new bands depend not only on the concns. of the Co or Ni, but also on the quantity of a 2nd activator, Cu or Ag, in similar amts. The life of the excited state is of the order of 2×10^{-7} sec. F. H. R.

62

BUKKE, E.E.

✓535.37 + 537.226.2] : 546.472.21 133

Change of the Dielectric Constant of Phosphors under the Influence of Infrared Radiation.—E. E. Bukke. (*Zh. eksp. teor. Fiz.*, April 1955, Vol. 28, No. 4, pp. 507–508.) In all cases when luminescence was increased by illumination with radiation of wavelength 0·8 μ or 1·3 μ, the dielectric constant also increased; in cases when the luminescence decreased the dielectric constant remained unchanged. Results for ZnS-Cu,Tm and ZnS.CdS-Cu,Ni are presented graphically; results for other phosphors are tabulated.

BUKKE, Ye. Ye.

51-4-6/26

AUTHOR: Bukke, Ye. Ye.

TITLE: Determination of the Sign of the Photo-current (Charge) Carriers in Phosphors based on ZnS. (Opredeleniye znaka nositeley fototoka v fosforakh na osnove ZnS).

PERIODICAL: Optika i Spektroskopiya, 1957, Vol.III, Nr.4, pp. 334-337. (USSR)

ABSTRACT: When a thin layer of a photo-semiconductor is placed between capacitor electrodes, one of which is semi-transparent, and is illuminated by suitable light, an e.m.f. appears between the capacitor electrodes (Ref.1). This effect is due to gradients of carrier densities produced by illumination of the semiconductor. These gradients establish electric fields which produce charge separation. The effect was used by the present author to study the sign of the charge carriers in various phosphors excited with ultraviolet light. Measurement of the e.m.f. which appears across the capacitor can be replaced by measurement of the potential

Card 1/6

difference U across a resistance R. If interrupted illumination is employed, and durations of illumination t_1 and darkness t_2, as well as values of C (capacitance) and R are chosen so as to make RC much greater than t_1 and t_2, and the latter two quantities are greater than the time necessary to establish a steady state in the semiconductor on illumination, then the change in U is very near in form to the change in e.m.f. at the capacitor electrodes. From the direction of electric current flow at the moment when illumination begins, the sign of the charge of carriers can be found. This current is displayed on a cathode-ray oscilloscope. The method described was first proposed by S.M. Ryvkin (Ref.2), and was used by the present author to find the sign of the charge carriers in powdered phosphors based on ZnS, as described below. A mercury lamp ПРК was used as the source of light. Light was modulated by a rotating disk with apertures. Some of the results are shown in Fig.1, where the first two oscillograms represent

Determination of the Sign of the Photo-current (Charge) Carriers in Phosphors based on ZnS.

the effects in ZnO and Cu_2O used for calibration (it is known that in ZnO the charge carriers are electrons and in Cu_2O they are holes). The upward peaks in Fig.1 represent electrons and the downward ones represent holes. The table on p.335 shows the charge carrier signs in 18 substances which differed in their activators, fluxes and methods of preparation. The signs in that table were obtained at three wavelengths: 312, 365 and 650 mμ. From the results obtained the author concludes that: (A) The sign of the charge carriers depends strongly on the activator. Thus phosphors with one rare-earth activator, prepared without a flux, possess hole conductivity (except ZnS-Eu and ZnS-Nd). Introduction of a second activator (for example, Cu) into such phosphors occasionally changes the charge carrier sign (ZnS-Cu,Sm). (B) The charge carrier sign may depend also on the flux and the method of preparation of the phosphor. Thus ZnS phosphor prepared in vacuo using NH_4Cl flux and ZnS phosphor prepared without flux but

Determination of the Sign of the Photo-current (Charge) Carriers in Phosphors based on ZnS.

heated in an atmosphere of H_2S both posess hole conductivity, while other ZnS phosphors prepared using different fluxes and under different conditions have electron conductivity. (C) The sign of the photo-current charge carriers may depend also on the exciting light wavelength (ZnS-Cu and ZnS-Cu,Tu). The value of the photo-e.m.f. discussed here is strongly affected by illuminating the sample, simultaneously with the interrupted light, with a continuous non-modulated "red" beam. Behaviour of two ZnS-Nd phosphors prepared in atmospheres of H_2S and NH_3 respectively, was found to be particularly interesting. In the former the action of "red" light strongly decreased electron photo-current. In the latter phosphor, on increase of the "red" light intensity the photo-current decreased to zero and then increased, but in the opposite direction, indicating hole conductivity. From all these results it is concluded that the phosphors studied possess mixed conductivity, and that the observed photo-current is composed

Determination of the Sign of the Photo-current (Charge) Carriers in Phosphors based on ZnS.

of electron and hole currents. A different method of determination of the charge-carrier sign was developed by E.K. Putseyko (Ref.3). This method also uses a capacitor, and electric fields of suitable directions are employed so as to promote diffusion of charges of one sign and to hinder diffusion of charges of the opposite sign. The present author repeated Putseyko's work and applied a constant voltage across the capacitor with a photo-semiconductor in it. The circuit was the same as described in Ref.3, but interrupted illumination was used with long periods of darkness. The e.m.f. was observed by using a cathode-ray oscilloscope. The main results of these latter experiments were as follows: (A) If the constant field promotes diffusion of carriers, then a considerable increase in the height of the peak on the oscilloscope screen is observed. Application of a field in the opposite direction causes either a decrease of the peak on the screen, or the appearance of a peak in the opposite direction. (B) With the field still applied the conditions return to the original state in 3-10 minutes. The phenomena observed may be explained

Determination of the Sign of the Photo-current (Charge) Carriers in Phosphors based on ZnS.

by appearance of space charge in finer grains, which tends to oppose the external field. This is, in fact, confirmed by experiment. Fig.2 shows oscilloscope displays (for ZnS-Cu,Tu) obtained at consecutive time intervals after application of an external field (Fig. 2b) and removal of this field (Fig.2d). Fig.2 shows the variation of peak height and direction obtainable for one phosphor at various intervals of time, which makes the method of Ref.3 difficult to interpret. The author concludes with the remark that independent analogous work was carried out by Nymm(yy) at Tartu University, and that he obtained similar results. There are 2 figures, 1 table and 4 references, 3 of which are Slavic.

SUBMITTED: January 31, 1957: submitted to Editor of "Izvestiya AN SSSR" on December 8, 1956.

AVAILABLE: Library of Congress.

BUKKE YE YE.

48-5-2/56

SUBJECT: USSR/Luminescence

AUTHOR: Bukke Ye.Ye.

TITLE: Determination of the Sign of Photoconductivity Carriers in Phosphors Based on ZnS (Opredeleniye znaka nositeley fotoprovodimosti v fosforakh na osnove ZnS)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 1957, Vol 21, #5, p 648 (USSR)

ABSTRACT: A method similar to that proposed by Ryvkin for semiconductors was used by the author in order to determine the sign of charge carriers inducing photoconductivity. The installation was complemented with a device which made it possible to apply an electric field of either sign to a phosphor under investigation in the condenser. This application of external fields aids in some cases to determine the sign of charge carriers.

20 phosphors based on ZnS were investigated and it was found that the photoconductivity of most of them was mixed.

It was discovered that the action of a constant electric field on a phosphor in the condenser led to a slow accumulation

Card 1/2

48-5-2/56

TITLE: Determination of the Sign of Photoconductivity Carriers in Phosphors Based on ZnS (Opredeleniye znaka nositeley fotoprovodimosti v fosforakh na osnove ZnS)

(3 to 10 min) of space charges in the grains of the luminophore, which almost wholly compensated the effect of an external electric field.

One Russian reference is cited.

INSTITUTION: Physical Institute im. Lebedev of the USSR Academy of Sciences

PRESENTED BY:

SUBMITTED: No date indicated

AVAILABLE: At the Library of Congress.

Card 2/2

BUKKE, Ye.Ye.; VINOKUROV, L.A.; FOK, M.V.

Effect of total accumulated light on the brightness relaxation of electroluminescence. Inzh.-fiz.zhur. no.7:113-116 Jl '58. (MIRA 11:8)

1.Fizicheskiy institut im. P.N. Lebedeva AN SSSR, Moskva.
(Luminescence)

AUTHORS: Bukke, Ye.Ye., Vinokurov, L.A. and Fok, M.V. SOV/51-5-2-12/26

TITLE: The Effect of the Stored Light-Sum on the Brightness of Electroluminescence of the ZnS-Cu,Al Phosphor (Vliyaniye zapasennoy svetosummy na yarkost' elektrolyuminestsentsii fosfora ZnS-Cu,Al)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol 5, Nr 2, pp 172-178 (USSR)

ABSTRACT: The paper gives new experimental data on dependence of the brightness of electroluminescence on the light-sum stored in the phosphor. The authors followed the technique developed at the Luminescence Laboratory of the Physics Institute of the Academy of Sciences of the U.S.S.R. by Z.A. Trapeznikova and R.M. Medvedeva, who prepared phosphors which store large light-sums when excited with electric fields. These phosphors were prepared in an atmosphere of H_2S and HCl. Electroluminescent capacitors were prepared from such phosphors by pouring out a layer of ZnS-Cu,Al mixed with melamideformaldehyde and alkyd "Rezyl" (trade name) resins onto conducting glass plates. Such a layer was dried and polymerized and a film of aluminium was deposited in vacuum to serve as the second electrode. Measurements were made from - 195°C to + 100°C using fields of 450 V and 3000 c/s. 366 mμ mercury line was used as a source of excitation in some of the experiments.

Card 1/4

The Effect of the Stored Light-Sum on the Brightness of Electroluminescence of the ZnS-Cu,Al Phosphor

The results obtained are shown schematically in Fig 1. At room temperature (the upper part of Fig 1) the electroluminescent brightness increases from the moment of switching on the field and in 6-8 min reaches a steady-state (Fig 1, 1a). If, with the field on, the phosphor is irradiated with infrared light, then the brightness falls (Fig 1, 1b). The increase of brightness is accompanied by an increase in the light-sum stored in the phosphor. This was checked by measurement of flash brightness under the action of infrared light (the thick vertical lines in Fig 1 are proportional to such flash brightness). If, with the field on, the phosphor is irradiated with ultraviolet light (366 mμ), then a rise of brightness above the previous steady-state value is obtained (Fig 1, 1v). If, after this new steady state is reached the ultraviolet irradiation ceases, then the brightness falls very slowly to the steady-state value obtained with the field alone (Fig 1, 1g). Decay of phosphorescence (Fig 1, 1e) excited by ultraviolet light without the field (Fig 1, 1d) proceeds faster than the decay of brightness